

The opinion in support of the decision being entered today (1) was **not** written for publication in a law journal and (2) is **not** binding precedent of the Board.

Paper No. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MATTHEW S. KLEE and MU Z. WANG

Appeal No. 1997-1738
Application No. 08/255,040

ON BRIEF

Before STONER, Chief Administrative Patent Judge, OWENS and LAZARUS, Administrative Patent Judges.

LAZARUS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 11 and 13-20, which are all of the claims pending in this application.

We reverse.

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BACKGROUND

The appellants' invention relates to an apparatus for separating and quantifying classes of hydrocarbons in a sample. A copy of the claims under appeal is set forth in the appendix to the appellants' brief.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Lauer et al. (Lauer)	3,686,117	August 22, 1972
Saxena	4,840,730	June 20, 1989
Nickerson et al. (Nickerson)	5,009,778	April 23, 1991
Snyder, Introduction to Modern Liquid Chromatography, John Wiley and Sons, 1979, pages 204-206		

The following rejections are before us for review.

Claim 11 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Saxena, or, alternatively, under 35 U.S.C. § 103 as being unpatentable over Saxena.

Claims 11, 13 and 18-19 stand rejected under 35 U.S.C. § 103 as being unpatentable over Saxena in view of Nickerson.

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Claims 14-17 stand rejected under 35 U.S.C. § 103 as being unpatentable over Saxena in view of Nickerson and further in view of Lauer.

Claim 20 stands rejected under 35 U.S.C. § 103 as being unpatentable over Saxena in view of Nickerson and further in view of Snyder.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellant regarding the above-noted rejections, we make reference to the answer (Paper No. 10, mailed May 16, 1996) and the supplemental answer (Paper No. 15, mailed November 22, 1996) for the examiner's complete reasoning in support of the rejections, and to the brief (Paper No. 9, filed May 8, 1996) and reply brief (Paper No. 11, filed July 19, 1996) for the appellants' arguments thereagainst.

OPINION

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In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by the appellants and the examiner. As a consequence of our review, we make the determinations which follow.

At the outset, we note that independent claim 11 requires "a supercritical fluid chromatograph for receiving the sample in an input stream and for producing an effluent stream" and "a variable orifice restrictor for receiving a second portion of the effluent stream and for independently controlling the pressure and flow rate of the input stream".

With respect to the primary reference, appellants urge two grounds for reversal, that "Saxena lacks any disclosure or suggestion of a supercritical fluid chromatograph..." (brief, page 5) and that Saxena lacks an effluent stream variable valve for input stream control (brief, page 5 and reply brief, page 4).

We note the examiner's position that "There is no structural difference between a generic disclosure of a column and a supercritical column" (answer, page 6). Appellants argue otherwise, that "[T]here is a structural difference between a generic disclosure of a column and a *supercritical fluid chromatograph*" (reply brief, page 4). In support of the differences, appellants cite Lee (Milton L. Lee, Analytical Supercritical Fluid Chromatography and Extraction, Chromatography Conferences, Inc., 1990) and provide a copy of Lee appended to the reply brief.

Lee's description of a supercritical fluid chromatograph portrays an apparatus capable of providing a mobile phase in a column at very high pressure, "practical pressures for applications range from less than 50 atm to more than 500 atm" (Lee, page 13). Further, Lee describes other aspects unique to a supercritical fluid chromatograph like "[T]he pressure-controlled pumping system which is essential for pressure or density programming, and the flow or pressure restrictor at the end of the column which is required to maintain supercritical pressures inside the column" (Lee, page 145).

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To support a rejection of a claim under 35 U.S.C. ' 102(b), it must be shown that each element of the claim is found, either expressly described or under principles of inherency, in a single prior art reference. See Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984).

It is our conclusion that the low pressure chromatography systems of Saxena do not anticipate, or render obvious, the supercritical fluid chromatograph limitation of appellants' claim and we reverse the examiner's rejection of claim 11 under 35 U.S.C. § 102(b) as being anticipated by Saxena, or, alternatively, under 35 U.S.C. § 103 as being unpatentable over Saxena.

We find that the Saxena reference does not teach a supercritical fluid chromatograph as recited in claim 11 on appeal. Saxena teaches chromatography systems using flow columns (Figs. 1 and 2) and explains that high pressure, high

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performance systems are "more expensive and pose a health hazard" (col. 2, line 27). The objective stated in Saxena is to "[P]rovide a chromatography system capable of high performance while operating at relatively low pressures" (col. 2, lines 32-34). Thus, Saxena teaches a low pressure chromatograph, not a supercritical fluid chromatograph.

The examiner suggests appellants' "specification is more pertinent as to what is meant by the term 'supercritical fluid chromatograph' than Lee" and points to the specification and original claims 19 and 20 where "the only" structure given is "a column packed with an adsorbent such as silica" (supplemental answer, page 4).

We do not agree that "supercritical fluid chromatograph" is limited by appellants to mean merely the column. Appellants describe "a supercritical fluid chromatograph that includes a column..." (specification, page 4, line 31-33). The term "includes" is open and not limited to just the column, but embraces other necessary elements obvious to a person having ordinary skill in the art. Despite the examiner's

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comment that "[s]upercritical pertains to the fluid state of the fluid to be chromatographed and not to the structure of the column", (answer, page 6) we find that the column in Saxena is combined with additional unique supercritical fluid chromatographic components.

Lee explains that supercritical fluid chromatographic components include pressure-controlled pumping and other apparatus necessary to perform supercritical fluid chromatographic operations (Lee, page 145).

The examiner has not explained where the "supercritical fluid chromatograph" (which includes apparatus necessary to perform supercritical fluid chromatographic operations) are taught in Saxena. Accordingly, since the teachings and suggestions found in Saxena neither anticipated nor made the subject matter as a whole of claim 11 on appeal obvious to one of ordinary skill in the art at the time of appellants' invention, we must refuse to sustain the examiner's rejection of claim 11 under under 35 U.S.C. § 102(b), or, alternatively, under 35 U.S.C. § 103.

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Regarding the rejection of claim 11 under 35 U.S.C. ' 103 as unpatentable over Saxena in view of Nickerson, we find that Nickerson does not overcome the above noted deficiencies of Saxena. Nickerson teaches an axially-driven variable restrictor valve controlled fluid trapping assembly useful for instruments such as chromatographs. However, even if the valves in the apparatus of Saxena were to be of the type shown by Nickerson (as suggested by the examiner), rejection of claim 11 would not be sustained since the above-noted deficiencies of Saxena would not be overcome.

We have also reviewed the Lauer, Nickerson and Snyder references additionally applied in the other rejections of claims 13-20, but find nothing therein which makes up for the deficiencies of Saxena discussed above. Accordingly, we cannot sustain the examiner's rejection of appealed claims 13-20 under 35 U.S.C. ' 103.

CONCLUSION

To summarize, the decision of the examiner to reject

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claim 11 under 35 U.S.C. ' 102(b) or, in the alternative,
under 35 U.S.C. ' 103 is reversed. It follows that the
examiner's other rejections of claims 13-20 under 35 U.S.C. '
103 as obvious over Saxena, Nickerson, Lauer and/or Snyder are
also reversed.

REVERSED

BRUCE H. STONER, JR.)	
Chief Administrative Patent Judge)	
)	
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)	BOARD OF PATENT
TERRY J. OWENS)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
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)	
RICHARD B. LAZARUS)	
Administrative Patent Judge)	

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RECORDS MANAGER
LEGAL DEPARTMENT, 20BO
HEWLETT-PACKARD COMPANY
P.O. BOX 10301
PALO ALTO, CA 94303-0890

LAZARUS

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APPLICATION NO. 08/255,040

APJ LAZARUS

APJ OWENS

CAPJ STONER

DECISION: **REVERSED**

DRAFT TYPED: July 20, 2000

FINAL TYPED: